APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,056	12/30/2003	Vincent E. Von Bokern	42P17992	9110

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER
KINSEY, BRANDON MICHAEL

ART UNIT	PAPER NUMBER
2116	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/750,056	VON BOKERN ET AL.
	Examiner	Art Unit	
	BRANDON KINSEY	2116	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>*30 December 2003*</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>*1-20*</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>*1-20*</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>*30 December 2003*</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/11/2004, 07/21/2005, 09/18/2006, 06/20/2008</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claims 1-20 are pending in the application.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent granted
> on an application for patent by another filed in the United States before the invention by the applicant
> for patent, except that an international application filed under the treaty defined in section 351(a) shall
> have the effects for purposes of this subsection of an application filed in the United States only if the
> international application designated the United States and was published under Article 21(2) of such
> treaty in the English language.

1.   Claims 1-4 and 12-20 are rejected under 35 U.S.C. 102(e) as being anticipated by

(2004/0047291) Ain et al.

Regarding claim 1, Ain et al teach an apparatus, comprising:

an input to receive a non-rate verified align detect signal ([0017]);

a rate verification unit to determine whether an appropriate number of align

primitives are received during a predetermined number of clock periods (Fig. 3; [0009]

and [0018]);

and

an output to deliver a rate-verified align detect signal ([0018]).

Regarding claim 2, Ain et al teach the apparatus of claim 1, the rate verification

unit including a shift register that is clocked at a target clock rate (Fig. 3, 112; [0018],

lines 1-25).

Regarding claim 3, Ain et al teach the apparatus of claim 2, the rate verification

unit further including a checking logic unit ([0018]).

Regarding claim 4, Ain et al teach the apparatus of claim 3, the rate verification

unit further including a state machine ([0018]).

Regarding to claims 12-20 see the discussion set forth hereinabove.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ain

et al in view of (2002/0041650) Sybel et al.

Regarding claim 5, Ain et al teach the apparatus of claim 2,

Ain et al do not teach the shift register including a first flip flop to receive a non-

rate verified align detect signal and to output a first Last Align Detect signal.

However, Sybel et al teach the shift register including a first flip flop to receive a non-rate verified align detect signal and to output a first Last Align Detect signal (col. 3, lines 36-57).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Ain et al, to verify the data rate of signals sent over a line by counting the number of primitives received, to use flip flops to receive the signal for recognition the primitives sent of the line to detect the necessary primitives at a high speed as taught by Sybel et al, so as to have a system able to provide necessary functioning to the user.

Regarding claim 6, Ain et al and Sybel et al teach the apparatus of claim 5, the shift register further including a second, a third, and a fourth flip-flop, the second flip-flop to receive the first Last Align Detect signal and to output a second Last Align Detect signal, the third flip-flop to receive the second Last Align Detect signal and to output a third Last Align Detect signal, and the fourth flip-flop to receive the third Last Align Detect signal and to output a fourth Last Align Detect signal (Sybel et al, col. 3, lines 36-57).

Regarding claim 7, Ain et al and Sybel et al teach the apparatus of claim 6, the checking logic unit to receive the first, second, third, and fourth Last Align Detect signals

from the shift register, the checking logic to assert a nonaligndetected signal if each of the values of the first, second, third, and fourth Last Align Detect signals are zero (Sybel et al, col. 3, lines 36-57; col. 4, lines 32-40 and col. 5, lines 8-10).

Regarding claim 9, Ain et al and Sybel et al teach the apparatus of claim 7, the state machine to count up to n align detects, the count to increase each time the non-rate verified align detect signal is asserted and the count to reset each time the nonaligndetected signal is asserted (Ain et al, [0018]).

Regarding claim 10, Ain et al and Sybel et al teach the apparatus of claim 9, the state machine to cause the rate-verified align detect signal to be asserted (Ain et al, [0018]).

4.   Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ain et al in and Sybel et al as applied to claim 7 above, and further in view of (2002/0046276) Coffey et al.

Regarding claim 8, note that Ain et al and Sybel et al teach the apparatus of claim 7,

Ain et al and Sybel et al do not teach the checking logic further to assert the nonaligndetected signal if more than one K28.5 characters are sampled in a 4-byte

sequence.

However, Coffey et al teach the checking logic further to assert the
nonaligndetected signal if more than one K28.5 characters are sampled in a 4-byte
sequence ([0048]-[0050]).

It would have been obvious to one of ordinary skill in the art at the time of the
invention to modify the apparatus of Ain et al and Sybel et al, to verify the data rate of
signals sent over a line by counting the number of primitives received, to check the
number of K28.5 characters sampled as part of a alignment sequence as a means of
detecting alignment as an alternate way of detecting whether synchronization has
occurred to provide flexibility in design of the apparatus as taught by Coffey et al, so as
to have a system able to meet the design requirements of the user.

5.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ain et al
in and Sybel et al as applied to claim 10 above, and further in view of (2003/0068024)
Jones et al.

Regarding claim 11, note that Ain et al and Sybel et al teach the apparatus of
claim 10,

Ain et al and Sybel et al do not teach the state machine to keep the rate-verified
align detect signal asserted until an acknowledge signal is received.

However, Jones et al teach the state machine to keep the rate-verified align detect signal asserted until an acknowledge signal is received (Abstract; [0041], [0111] and [0120]-[0124]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Ain et al and Sybel et al, to verify the data rate of signals sent over a line by counting the number of primitives received, to wait for receipt of an acknowledgment signal before continuing further operation so that the subsequent functioning of the device after alignment is detected is correct as taught by Jones et al, so as to have a system able to provide correct operation to the user.

Conclusion

6.   The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Lochner, Bunker et al and Anderson all relate to detecting data rates in a serial communication apparatus based on received alignment characters. Motegi et al relates to a correlation detection apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON KINSEY whose telephone number is (571)270-7759. The examiner can normally be reached on Monday thru Friday, 7:30 AM to 5:00 PM, Alternate Fridays, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas Lee can be reached on (571)272-3667. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
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Customer Service Representative or access to the automated information system, call
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRANDON KINSEY/   /Thomas Lee/
Examiner, Art Unit 2116   Supervisory Patent Examiner, Art Unit 2115